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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,234	10/30/2000	Otto Preiss	004501-446	6329

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EXAMINER

BARNES, CRYSTAL J

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 09/03/2003

10.

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/698,234

Applicant(s)

PREISS ET AL.

Examin r

Crystal J. Barnes

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-9 and 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. This action is in response to the request for reconsideration submitted 15 July 2003.

2. The amendment to claims 1-20 has been entered.

Drawings

3. The substitute drawings were received on 15 July 2003. These drawings are acceptable.

Response to Arguments

4. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

5. The Office Action (paper no. 7) mailed 15 January 2003 is hereby incorporated by reference.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-9 and 11-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,960,214 to Sharpe, Jr. et al.

As per claim 9 wherein a method for integration of a field device in an installation control system, wherein the installation control system has a communications network and a control station, the method comprising: a) transmitting, by the field device [devices 16, 18, 20, 22, 24], a functional description [device related information] of its device functions to the control station [distributed control system 14] in a standardized form; b) installing functions [read data from] associated with the field device on the control station; and c) configuring communications links [communication line 42] between the device functions and functions of the control station, wherein the installation control

system controls a high-voltage or medium-voltage switchgear assembly; the

Sharpe, Jr. et al. reference discloses

(see figure 1 and columns 5-6 lines 65-3), "A management system 10 interconnected with a process 12, a distributed control system 14 which controls the process."

(see column 6 lines 3-9), "The process 12 may comprise any desired type of process and is illustrated as including four smart field devices 16, 18, 20, 22 and a conventional device 24."

(see column 6 lines 27-28), "The FMS database 40 stores device-related information that is not available from the smart devices."

(see column 6 lines 41-56), "The smart devices 16 and 18 are on-line devices that are connected to the FMS system via a communication line 42 and a modem 44."

(see column 11 lines 7-13), "To retrieve specific data from, or pertaining to, one of the on-line devices of the process 12, the server 68 asks the DDS 72 for the specific data."

(see column 11 lines 26-29), "The smart device communication interface 74 then sends a request to the DDS 72 for information on how to retrieve the specific data requested by the server 68 from the on-line device."

(see column 11 lines 33-34), "The smart device then responds with a data stream including the specific data."

(see column 11 lines 47-51), "The process of writing data to an online device is similar to the process of reading data from that device except that the server 68 first sends a request to the DDS 72 for write information."

(see column 15 lines 14-18), "A device ID typically includes a triplet of information comprising the name of the device manufacturer, the model number of the device, and the serial number of the device. Device tags and physical tags usually refer to a location of the device in a plant or a process such as the process 12."

The Sharpe, Jr. et al. reference does not expressly disclose the installation control system controls a high-voltage or medium-voltage switchgear assembly.

However, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the

prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

As per claim 2 wherein before the integration of the field device [field device], the control station [distributed control system 14] contains information about a structure [hierarchy] of the installation [installation/configuration]; the Sharpe, Jr. et al. reference discloses

(see column 13 lines 10-17), "The hierarchy of FIGS. 3 and 4 represents not only an arrangement of DDL information (i.e., information available from DD's of DDL's and/or information available from a device or a database associated with devices using one or more DDL's), but also a way of defining an interface between the DCI 60 and the servers 68 and 70 of FIG. 2 in order to access, retrieve, and change this information."

(see column 13 lines 53-64), "The upper hierarchy of FIG. 3 corresponds to and illustrates the physical or defined connectivity of devices such as HART, Fieldbus, and other smart or conventional devices, and blocks, such as Fieldbus blocks, connected within a process. The lower hierarchy of FIG. 4 illustrates relationships among the data which is available from, or referenced by, DDL's such

as the HART and Fieldbus DDL's, and the data which is stored in and/or available from DD's, smart devices and/or a database pertaining to smart or other devices."

As per claim 3 wherein before integration of the field device [field device], the control station [distributed control system 14] contains information about an identify [device ID] of the field device [field device] and/or about an identity of primary units [physical communication connection] which are associated with the field device [field device]; the Sharpe, Jr. et al. reference discloses

(see column 15 lines 9-25), "A device ID typically includes a triplet of information comprising the name of the device manufacturer, the model number of the device, and the serial number of the device. Device tags and physical tags usually refer to a location of the device in a plant or a process such as the process 12. The value of a physical tag and/or a device tag can be, for example, an alphanumeric code associated with a specific physical location in the plant or any other description of a physical location. For HART devices, the physical tag is considered the same as the device tag whereas, for Fieldbus devices, the physical tag can have a different value than the device tag."

(see column 15 lines 30-32), "In lieu of, or in addition to having a device tag, a physical tag and/or a device ID, a device can be identified by its physical communication connection to an FMS system."

As per claim 4 wherein at least one function of the control station is installed automatically on the basis of the nature of this function, the Sharpe, Jr. et al. reference discloses

(see column 3 lines 12-22), "DDS is a general software system developed and provided by Fisher-Rosemount Systems, Inc. and/or Rosemount, Inc. for automatically decoding and interpreting the DD's of smart devices. More particularly, DDS is a library of routines which, when called by a host, interprets the DD of a smart device to provide the host with information pertaining to the smart device, including information pertaining to: (1) the setup and configuration of the smart device; (2) communication with the smart device; (3) user interfaces; and (4) methods available for use in conjunction with the smart device."

(see column 8 lines 31-39), "The interface block 58 is essentially a software package having for example, specifically configured Windows custom controls, OCX controls or VBX controls, which automatically perform functions relating to the communication of particular, frequently used information between a current

application 56, the smart devices within the process 12, the database 40, and a user interface 65 comprising the Windows operating system 49, the display 30, the printer 31, the keyboard 32, and the mouse 34."

(see column 9 lines 57-62), "The server network 66 recognizes that the data and methods pertaining to the OLE object must be retrieved and stored in memory associated with one of the servers 68 or 70 and automatically performs the functions necessary to retrieve the data and methods of that OLE object."

As per claim 5 wherein the functional descriptions of the field devices use a description language in accordance with IEC Standard 61850-6 or its draft, the Sharpe, Jr. et al. reference discloses

(see column 2 lines 46-58), "Communication with smart devices has been simplified to some extent with the advent of device description languages (DDL) and device description services (DDS) which are provided by the manufacturers of smart field devices. A DDL is a human-readable language that provides a protocol for describing the data available from a smart device, the meaning of the data associated with the smart device and retrieved therefrom, the methods available for implementation of the smart device, the format for communicating with the smart device to obtain data, user interface information about the device (such as

edit displays and menus), and data necessary for handling or interpreting other information pertaining to a smart device."

(see columns 10-11 lines 67-2), "However, those familiar with OLE and DDL's can create such routines in a straightforward manner using any desired programming language."

As per claim 6 wherein generic functions of the control station associated with the field device are stored in the control station before a physical installation of the field device, the Sharpe, Jr. et al. reference discloses

(see column 9 lines 45-48), "Essentially, the DCI 60 communicates with the server network 66 as if all the OLE objects identified for the determined hierarchy exist within the memory of the server network 66."

(see column 9 lines 51-62), "In reality, however, the data and methods of each OLE object are not actually stored or placed in the memory of the server network 66 until a call, such as a read or write call, is sent to the server network 66 for such OLE object by, for example, the DCI 60, the DDS 72, the smart device communication network 74, or the FMS database interface 80. At that time, the server network 66 recognizes that the data and methods pertaining to the OLE object must be retrieved and stored in memory associated with one of the

servers 68 or 70 and automatically performs the functions necessary to retrieve the data and methods of that OLE object."

As per claim 7 wherein functions of the control station associated with the field devices are transmitted by the field device to the control station during a physical installation of the field device, the Sharpe, Jr. et al. reference discloses

(see columns 9-10 lines 63-3), "When the server network 66 receives a call relating to the reading or writing of data or methods within one of the OLE objects stored in its memory, the server network 66 returns the requested information or performs the requested function to the OLE object data according to its stored routines so as to read data from, and write data to, the OLE object, the DDS 72, the smart devices within the process 12 and the FMS database 40."

(see column 11 lines 7-13), "Generally, to retrieve specific data from, or pertaining to, one of the on-line devices of the process 12, the server 68 asks the DDS 72 for the specific data. If that data is stored in the DD for a smart device, the DDS 72 then consults the DD for the referenced device or the DD associated with a block of the referenced device and returns the requested data to the server 68."

As per claim 8 wherein generic functions of the control station associated with the field device are transmitted to the control station during physical installation of the field device using an address, in particular a URL; the Sharpe, Jr. et al. reference discloses

(see column 1 lines 52-58), "Exemplary smart devices include devices which follow the HART (Highway Addressable Remote Transducer) protocol (HART devices), the Fieldbus protocol (Fieldbus devices), the Modbus protocol, and the DE protocol. However, other smart device protocols may exist or be developed in the future to support different types of smart devices."

As per claim 20, see rejection of claim 9.

As per claim 11, see rejection of claim 5.

As per claim 12 wherein the field device comprises the functional description of the at least one device function of the field device; and an interface for transmitting the functional description of the at least one device function of the field device via the installation control system; the Sharpe, Jr. et al. reference discloses

(see column 8 lines 31-39), "The interface block 58 is essentially a software package having for example, specifically configured Windows custom controls, OCX

controls or VBX controls, which automatically perform functions relating to the communication of particular, frequently used information between a current application 56, the smart devices within the process 12, the database 40, and a user interface 65 comprising the Windows operating system 49, the display 30, the printer 31, the keyboard 32, and the mouse 34."

(see column 12 lines 16-19), "Generally, however, the FMS database interface 80 mimics the functions of the smart device communication interface 74 as they relate to communications between the DDS 72 and the server 70." Also see rejection of claim 9.

As per claim 13, see rejection of claim 5.

As per claim 14, see rejection of claim 2.

As per claim 15, see rejection of claim 3.

As per claim 16, see rejection of claim 4.

As per claim 17, see rejection of claim 6.

As per claim 18, see rejection of claim 7.

As per claim 19, see rejection of claim 8.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to apply the field device management system taught by

the Sharpe, Jr. et al. to a switchgear assembly or any other application that manages "smart" field devices within a process or a plant to illustrate industry applicability.

One of ordinary skill in the art would have been motivated to make changes, additions, and/or deletions to the disclosed embodiments without departing from the spirit and scope of the invention.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to control of field devices in general:

USPN 6,574,681 B1 to White et al.

US Pub. No. 2003/0014536 A1 to CHRISTENSEN et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Crystal J. Barnes whose telephone number is

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703.306.5448. The examiner can normally be reached on Monday-Friday alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anil Khatri can be reached on 703.305.0282. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.305.3900.

cjb
August 26, 2003



ANIL KHATRI
PRIMARY EXAMINER